

**Notice of Allowability**

Application No.

10/695,394

Examiner

Rose M. Miller

Applicant(s)

GILGUNN, PETER

Art Unit

2856

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to IDS filed 29 October 2003.
2. ☒ The allowed claim(s) is/are 1-26.
3. ☒ The drawings filed on 10/29/03 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>10/29/03</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                               | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input type="checkbox"/> Other _____.   |

### REASONS FOR ALLOWANCE

1. Claims 1-26 are allowed.
2. The following is an examiner's statement of reasons for allowance: The prior art of record fails to teach and/or suggest positioning or mounting one or more transducers on the mechanical components of a semiconductor processing system to monitor the acoustic emissions of the mechanical component such that an unwanted contact of a wafer with the mechanical component can be monitored for.

The closest prior art is that of **Sampson (US 6,424,137 B1)**, **Hawkes (US 4,655,673)**, and **Shimada (US 6,052,243)**. **Sampson** teaches monitoring a chemical polishing process for semiconductors to determine when an error in the polishing has occurred and resulted in scratches on the wafer or when the polishing process has finished. **Hawkes** teaches monitoring a robotic arm or other mechanical component in order to determine contact between the mechanical component and an item. However, the contact here is desired contact and the acoustic emissions are utilized to monitor and control the contact between the arm and the object it is touching. **Shimada** teaches that acoustic emissions can be utilized to monitor unwanted or undesired contact. However, **Shimada** teaches it in the context of monitoring a hard drive or other form of rotatable element. There is no teaching of attaching the transducers to monitor a semiconductor processing system.

Therefore, the prior art fails to teach and/or suggest the claimed feature of monitoring the emissions of a semiconductor processing system for the receipt of abnormal signals that represent unwanted and undesired contact of the wafer with the semiconductor processing system itself.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Hawkes (US 4,655,673)** discloses an apparatus for providing tactile feedback to operators of remotely controlled manipulators.

**Gabor et al. (US 4,678,355)** discloses a print tip contact sensor for quiet impact printers.

**Shimada (US 6,052,243)** discloses a magnetic disk unit for detecting contact between a magnetic head slider and a magnetic disk.

**Taniguchi et al. (US 6,105,432)** discloses a contact tester for a disk drive.

**Abdel-Malek et al. (US 2002/0194915 A1)** discloses a system for conditioned based monitoring using acoustic diagnosis.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rose M. Miller whose telephone number is 571-272-2199. The examiner can normally be reached on Monday - Friday, 7:30 am to 3:30 pm.

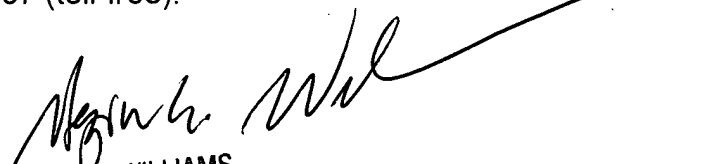
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



RMM

11 June 2005



HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800